University of Massachusetts Medical School
eScholarship@UMMS

Library Publications and Presentations | Lamar Soutter Library

September 2005

The Design of the Wilson's Library Literature Online Tutorial

Cecile Bianco
University of Massachusetts Medical School, cecile.bianco@umassmed.edu

Follow this and additional works at: http://escholarship.umassmed.edu/lib_articles

Part of the Library and Information Science Commons

Repository Citation
Bianco, Cecile, "The Design of the Wilson's Library Literature Online Tutorial" (2005). University of Massachusetts Medical School. *Library Publications and Presentations.* Paper 6.
http://escholarship.umassmed.edu/lib_articles/6

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in Library Publications and Presentations by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.

Introduction

The Wilson's Library Literature Online tutorial (LLOT) was designed for the Graduate School of Library and Information Science at Simmons College for the Master's level class LIS 408, User Instruction. This paper, which accompanies the tutorial, will do the following:

- Provide background on the institution.
- Summarize findings from a literature review of use of library tutorials at the graduate level.
- Discuss the planning and the needs assessment for the tutorial.

  Discuss the educational strategies used in the tutorial and its strategic design based on the literature review.

- Propose an evaluation form for the tutorial.
- Propose a hypothetical budget for the tutorial.

The Institution

The Graduate School of Library and Information Science is part of Simmons College, a women's college founded in 1899 with approximately 1,300 undergraduate students granting Bachelor of Arts and Bachelor of Science degrees. Graduate programs offered include physical therapy, nutrition, nursing, health-care administration, children's literature, English, French, liberal studies, Spanish, social work, and management (Peterson's annual guides/undergraduate study, 2004).

The Master's program is a graduate, co-educational Master's of Science, which requires 36 semester units to complete. There are three required courses:

- Reference/Information Services, which covers provision of reference services in a library and also core reference sources.
- Organization of Knowledge, which covers cataloging and classification.

  One of:

- Management
- The Role of Research, which covers how to identify and investigate research questions, and how to read and evaluate a research paper (Simmons GSLIS Master of Science, 2004).

Students in the program can choose from a general set of electives including academic, public, or special libraries, web publishing, children's/youth librarianship, etc. or they can choose from the following concentrations:

- Archives Management
- School Media Management
- Competitive Intelligence
- Preservation Management

There are about 600 students typically enrolled in each of the Fall and Spring semesters and about 300 in the summer. In 2002, the school graduated 215 Master's degrees (Peterson's Graduate Programs, 2004).

The School also offers a Doctor of Arts degree in Library and Information Science. This degree is designed for experienced librarians to learn administration and management. It requires 60 credit hours, a supervised Field Research of 4 units, and a comprehensive examination (Simmons GSLIS, Doctor of Arts, 2004).

The Library

The GSLIS Library contains approximately 25,000 monographs, 10,000 bound periodicals and 59,000 microforms (Bridget Capobianco, GSLIS Library Assistant, Personal Communication, 2004): it also has access to about 101 electronic databases (Simmons Colleges Libraries, 2004).

The GSLIS Library offers bibliographic instruction workshops every semester. These are one-hour workshops geared toward library science students. They are hands-on training sessions and include sessions on:

- Simmons' OPAC
- Wilson's Library Literature
- LISA: Library and Information Science Abstracts
- ISTA: Information and Science Technology Abstracts
- InfoTrac's Expanded Academic
- Dialog Classic
- How to find journals and journal articles.

Staff of the Simmons College Libraries includes:

- Director who oversees all other departments/librarians
- Administrative Assistant for the director.
- Associate Director for Public Services, who oversees 3 librarians and 3 library assistants
- Associate Director for Technical Services/Cataloging Librarian, who oversees 5 librarians and 2 library assistants.
- One archivist and 6 subject specialist librarians, who collectively oversee 3 library assistants.

The GSLIS Collection is one of the collections of the Simmons College Libraries and is managed by the GSLIS Librarian. The department also includes two full-time library assistants (one of which splits time with the GSLIS West campus) and 7 part time student library assistants (Bridget Capobianco & Gary Atwood, Personal Communication, 2004).

Literature Review

Because graduate students may need to write theses and dissertations, it is crucial for them to learn how to use the library. The University of Maryland University College and the Northridge campus of the California State System are two institutions that have information literacy requirements in some of their graduate programs (Kelly, Orr, and Houck, 2001; Curzon, 2002). Issues of design of online tutorials for graduate students have been addressed by Ardis & Hass (2001), and Holmes (2003).

Graduate students differ from undergraduate students in several ways:

1. They are more heterogeneous in nationality, background, citizenship and age (Edwards, 2000)
2. They are older and so have a greater interest in the course material and in learning and less concern about grades than younger students (Claxton and Murrell, 1987).
3. They are more likely to live off campus or be distance education students.
4. They are more likely to be required to do a thesis or dissertation.
5. They do not often ask others for help (Prestamo 1998; Onwuegbuzie, 1998).

These differences point to online education as a good way to address the special needs of graduate students. Teaching library resources in person to a heterogeneous group can be difficult if they all have different skill levels: with an online program, each one can go at his/her own pace. An online course can be done at any time and at home. The person does not have to ask others questions that might betray lack of knowledge. There, online instruction would be able to capture these students in ways that in-person instruction could not.

Because computer education is one-way, and lacks human interaction, design issues become very important. The program should explain things in an understandable way, have a goal for what the student will learn in the timeframe of the tutorial, provide examples, and test the student for understanding. Nancy Dewald (1999) addressed best practices in the design and content in online tutorials. Her criteria were

1. Relate the tutorial to a specific course
2. Incorporate active learning
3. Incorporate collaboration with others
4. Use media for learning through both auditory and visual channels
5. State the educational objectives
6. Teach concepts (like Boolean operators), not just mechanics
7. Offer a librarian's help.

Besides the above criteria, a designer of an online tutorial must be aware of the inherent problems of computer-assisted instruction. One of the problems addressed in the literature is that computer instruction tends to favor certain learning styles over others. In a study by Terrell and Dringus (1999), 98 information science students in an online master's degree program were tracked and their learning styles were assessed using Kolb's Learning Style Inventory. The graduation rates of those with diverger, converger and assimilator styles were all about 80%. But the graduation rate of those with the accommodator style was less, 60%. The authors believed that this was because of the impersonal nature of the online environment. This finding is supported by Ross (1998) and Holmes (2003).

Because of this finding, Holmes suggests that tutorials include one or more of these features: some interactivity, quizzes with feedback, simulations, ability to contact a real librarian, photos of staff, or some other human touch (2003).

Educational Strategies

These include online pathfinders, one-on-one instruction, workshops, one-shot sessions, and course integrated instruction. LaGuardia et al. (1996) mention the pros and cons of an online tutorial summarized here:

Pros

- It is only written once, and can serve as instruction multiple times—i.e. the instruction is available all the time but the work to create it is not repeated for each usage.

- Users can do it at their own pace.
- Anonymous—appeals to users who don't like to ask for help.
- Convenient, any-time access.

Cons

- Takes a long time/effort to develop and has to be maintained.
- Static and not interactive, cannot respond to questions like a real person.
- Some people may not have access to it off campus.

PLANNING for the LLOT:

According to LaGuardia et al. (1996, p. 34), there are 12 steps to designing an instruction program. Steps 1-6 address the planning aspect:

1. Determining the need.
2. Securing initial administrative/collegial support.
3. Information gathering.
4. Instructional needs assessment.
5. Discussion/brainstorming/consulting/prioritizing.
6. Program/session design.

Step 1: Determining the need. The way to do this in a real-life situation is through librarian observation of a need, either via questions at the reference desk, or reports from faculty of poor student bibliographies, etc. Since the LLOT will be designed by a student, the assistance of an experienced librarian was requested in the form of a questionnaire (Appendix 1). The following insights were gained from this questionnaire:

1. The most asked questions by students were:

a. Why shouldn't I limit the search to full text articles?

b. Why can't I use Library Literature right after I open it? (They don't understand that they must also check the Library Literature box)

c. What does "peer reviewed" mean?

2. The biggest problems with the students' papers were the quality of the student's literature searches and the writing style.

3. The specific way that student searches could be improved was that students learn the variety and content of the different databases. Typically they just used one database, when a thorough search on the topic would require use of Library Literature, LISA, ISTA and maybe others.

4. The most important features of Library Literature for students to learn in detail were the Thesaurus, Booleans, when to use the different fields, and Truncation.

5. The librarian thought the tutorial should last 60 minutes (Linda Watkins, personal communication, November 11, 2004).

Step 2: Securing administrative/collegial support. An online tutorial needs this support for different reasons than a traditional teaching program. Some reasons an online tutorial development project may need support are:

- It requires collegial support for its design especially for the usability testing phase.
- It takes time to develop, therefore needs budgeting money (administrative support).
- It needs periodic revision, and therefore administrative support for budgeting and collaborative efforts with colleagues in case the original developer cannot do the revision.

Step 3: Information gathering. This is where LaGuardia et al. suggest using feedback forms, circulation data, and reference desk use patterns. Reference desk use patterns were addressed in this case with the librarian questionnaire.

Step 4: Instructional needs assessment. In order to accomplish this step, a needs assessment questionnaire was designed (Appendix 2): From the questionnaire several areas were identified as ones needing to be addressed by the tutorial.

1. Explain that a "feature" means an article.
2. Explain how to select Library Literature from the scrolled list of databases.
3. Use of the Thesaurus and Browse features.
4. What "All-Smart Search" includes.
5. Marking records to form lists, then using print/email/save.
6. Back icon vs. using the browser back button.
7. What you get when you click on the article hypertext vs. html text vs. pdf.
8. Format for exporting to bibliographic software
9. The Wilson link (the fourth icon on the display of results)

The students were given a list of possible tutorial topics (Appendix 2) and were asked to select the ones that they felt should be covered. Each topic is tabulated with the number of times it was selected by a student.

How to use the Thesaurus	4
When to use All Smart, Keyword, Personal Author, Title, i.e. the different fields	4
How to use the icons that appear next to your results	3
Print, email, save	2
Limiters	2
Help screens (context sensitive)	2
Booleans	1
What journals and types of articles are covered by Library Literature	1
Differences between html and pdf (write in)	1

Step 5: Discussion/Brainstorming/Consulting/Prioritizing. As noted above, the student questionnaire asked people to prioritize the features of the Library Literature that should be covered in the tutorial.

Technical Planning for the LLOT

Step 6: Program Planning. In order to plan for the LLOT, the paper "On-line tutorials: some tips taken from the literature and three examples in the graduate school setting" was used as a guideline for the design.

Tip 1: Stated Objectives.

The broad goals of the LLOT are:

- To allow the student to understand basic use of LL, including navigation, basic searching, how to access the articles you find, how to print, email and save.
- To teach the student basic concepts of searching including keyword vs. subject searching, use of the thesaurus, and what is peer review.
- To teach the student how to conduct effective searches in LL, i.e. to obtain citations for most of the relevant and useful materials that pertain to the topic.

Tip 2: Teach concepts, not just mechanics

The tutorial included a link to Boolean operators, defined "peer reviewed" and discussed the difference between "All Smart Search", keyword search, and subject search. Use of thesaurus was explained.

Tip 3. Initial technology check.

The user is told that it only works with version 6.0 of Internet Explorer and uses JavaScript. Ideally, the program would check for these requirements like TILT does, but this was not done.

Tip 4. Don't let the user get lost.

Hyperlinks in text were designed to open in new popup windows, preserving the user's place in the main program.

Tip 5. Clear navigation.

Both forward and backward arrows are provided. Every screen has a link to the tutorial home page and to the Simmons College Libraries home page.

Tip 6. Readability: Allow reader to scan the pages.

The attempt was made to have only one idea per page. Bold text was used for new terminology so it would stand out. Bulleting of lists helped readability, and finally, scrolling was minimized where possible.

Tip 7. Readability: Use of white space and color.

Empty lines of white space were used to separate instructions. Red color was used to indicate words the user was directed to type. Colors that were already in the Simmons Libraries home page were used as the framework to make the tutorial harmonize with other library pages.

Tip 8: Absence of linear navigation.

Navigation arrows for forward and backward were provided. However, once the user leaves the computer in the middle a module, he/she cannot return to the place they left off. To do so presented too much technical difficulty.

Tip 9.Updated links and crash free.

Usability testing was performed by the class who went through the tutorial. Problems in the programming that were found were corrected.

Tip 10. Accessibility

Being a simulation, the tutorial's accessibility depends on the accessibility of the Wilson databases. However, for the exercise of doing so, all pictures received alternative text and the homepage and a page of Module 1 was run through www.cast.org/bobby. Some comments provided by the program included:

1. Use the "scope" attribute to further clarify tables and provide summary for them.

2. If you use color to convey information, be sure it is conveyed another way.

Issue one is not valid for these pages when tables are used for layout only. Otherwise, tables would need increased information. In most instances color is used for effect, but the red color (for user input) needed to be explained.

Tip 11. Load time

Program was tested with the "slow" computer (1998 IBM computer, with Windows 98, a Pentium II Processor, 128 MB RAM, AOL Browser at a modem speed of 52K) and it was mostly limited by Wilson itself.

Tip 12. Use simulations to include tactile learners.

This was done.

Tip 13. Provide interactivity.

It was hoped that simulations would do this instead of quizzes. Photos were not obtainable. Flash would be a good way to provide interaction, but was not implemented here for simplicity.

Tip 14. Effective use of screen shots.

Screen shots were clipped with PowerPoint so that only the relevant portions of the screen would show and they would be large enough. The size of the screen shot pop-up windows was made large so the screen shots would be large.

EVALUATION

Formative evaluation would include pre-tests and post-tests, surveys done immediately after the instruction, and feedback from faculty. The LLOT included a survey done immediately after the instruction. Quizzes were not done because the on-line simulation provided the interactivity instead. Feedback from faculty of student work would be the best indicator of effectiveness but does not provide immediate feedback and the LLOT's scope is too limited. A summative evaluation would be seeing how many people accessed the program, obtaining attitude measures from students and faculty, testing of people starting the L.I.S. program versus people who are just finishing. It would be ideal for an online tutorial to assess students

online, however this may not be possible in the time allotted. The online evaluation will only address student attitudes. In the web version, questions 1, 2, 3, 5 and 7 were implemented with radio buttons and 4 with a checkbox.

SAMPLE EVALUTION FORM

INTRODUCTORY STATEMENTS: (wording adapted from Research Committee, Library Instruction Round Table, 1996). Simmons College wishes to determine our patrons' satisfaction with our online Library Literature tutorial. Please answer the following questionnaire, which should take about 5 minutes to complete. Your answers will be confidential.

1. I am a(n) _____

a. Undergraduate Simmons student

b. GSLIS Master's student

c. GSLIS D.A. student

2. (If applicable), I have completed ___ units in the GSLIS program.

a. 0-12

b. 13-24

c. 25-36

3. The tutorial has helped to develop my skills in using the database.

a. Strongly agree

b. Agree

c. Neutral

d. Disagree

e. Strongly Disagree

4. The Library Literature online tutorial taught me (check all that apply).

a. basic use of Library Literature, including navigation, basic searching, how to access the articles you find, how to print, email and save.

b. keyword vs. subject searching

c. use of the thesaurus

d. what does peer reviewed mean

e. how to conduct effective searches in library literature, i.e. to obtain citations for most of the relevant and useful materials that pertain to the topic.

5. How often do you use Library Literature?

a. At least once a week

b. At least once a month

c. At least once a semester

d. I never use it

6. What aspects of the database do you feel were not covered adequately?

7. The tutorial was

a. Too long

b. Too short

c. About right

8. Please add additional comments about the tutorial. Your thoughtful responses will be most appreciated. Responses with specific examples are the most helpful.

Thank you for answering the questionnaire!

Budgeting

The budget for doing the online tutorial is very difficult to assess. One way of estimating the budget would be based on the number of hours to create and maintain it and the salary of the librarian. Suppose the design took a full week, i.e. 40 hours. Also, suppose that the maintenance takes one-half week per year. Therefore, the tutorial would take one FTE 1.5 weeks of that year.

The median salary of an academic librarian in New England in Fiscal year 2003 was $47,990, including ACRL libraries and excluding ARL libraries (Carson, 2002). Therefore the calculated cost of the tutorial would be: $47,990*1.5/52 = $1,384.

This assumes the library already has the necessary hardware and software including Dreamweaver. In reality, the tutorial was created for a class and so it was done for free. Even the handout was printed out with no cost to the student developer.

Conclusion

Designing an online tutorial for educational use is a difficult thing. It can be a supplement to in-person instruction but does not replace the give and take of a real interaction. It's advantageous to have the tutorial in place in case a student needs information during a time when in-person instruction is not available. It favors some learners over others and so efforts must be made to include all learning styles. This paper has tried to build on the

previous paper and implement a tutorial that followed the 14 tips taken from the literature. The tutorial can (for the time being) be found at www.simmons.edu/~bianco/Library%20Literature/homepage.htm

Appendix 1.

Needs Assessment Questionnaire-Library Literature—Librarian Version

Which of these features do you think is the most important for students to learn in detail? (pick as many as you want) by putting an x next to it

- Thesaurus Boolean operators
- When to use All Smart, Keyword, Author, corporate, Author personal, Title, i.e. the different fields
- Limiters
- How to use the icons that appear next to your results
- Print Email Save
- Help screens
- What journals and types of articles are covered in Library Literature
- Differences between electronic and print versions.
- Other (write in)_____

5. Finally, how long do you think an online tutorial should take?

5-10 minutes.___

10-15 minutes___

15-20 minutes___

Other (write in)_____

Thank you for completing the questionnaire!!

1. What questions about the database do you get the most often?

2. In looking at student's papers yourself or hearing from the faculty, what do you think is the greatest problem with student's papers?

a. Finding a topic

b. Finding a question of the right size to answer with in that topic

c. Quality of the student's literature searches

d. Discussion or analysis

e. Writing style

3. In looking at the quality of the students' literature searches, what would you think needs improvement: (circle all that apply)

a. Students don't pick relevant articles to their topics

b. Students are not thorough enough, i.e., they miss many materials that are relevant to the topic.

c. Students pick articles that are on the topic, but of poor quality.

Please add other comments

Appendix 2. Needs Assessment Questionnaire-Library Literature

If you have ever used Library Literature for a class project then please answer these questions.

1. Do you find it easy for you to use? If not please explain what feature(s) are difficult for you to use?

2. What features (if any) would you like to know more about?

3. Think back to when you first used Library Literature. What were things that you wished someone had told you first thing?

4. Which of these features do you think is the most important for students to learn in detail? (pick as many as you want) by putting an x next to it

- Thesaurus
- Boolean operators
- When to use All Smart, Keyword, Author, corporate, Author personal, Title, i.e. the different fields
- Limiters
- How to use the icons that appear next to your results
- Print Email Save
- Help screens
- What journals and types of articles are covered in Library Literature
- Differences between electronic and print versions.
- Other (write in)_____

5. Finally, how long do you think an online tutorial should take you?

5-10 minutes.___

10-15 minutes___

15-20 minutes___

Other (write in)_____

Thank you for completing the questionnaire!!

References

Peterson's annual guides/undergraduate study. guide to four-year colleges (2004). (34th ed.). Princeton, N.J.: Peterson's Guides.

Peterson's graduate programs in business, education, health, information studies, law & social work (2004). (38th ed.). Princeton, N.J.: Peterson's Guides.

Ardis, S., & Haas, J. (2001). Specialized remote user education: Web-based tutorials for engineering graduate students. Issues in Science & Technology Librarianship, Fall(32). Retrieved October 7, 2004, from www.istl.org/istl/01-fall/article3.html

Carson, C. H. (2002). Salary distribution of full time professional librarians in ACRL/NEC four year academic libraries, fiscal year 2003. Retrieved November 26, 2004, from gslis.uri.edu/ACRL/tableAp.html

Claxton, C. S., & Murrell, P. H. (1987). Learning styles : Implications for improving educational practices. College Station, Tex: Association for the Study of Higher Education.

Curzon, S. C. (2002). Cooperating for success: The information competence initiative of the California State University. *Resource Sharing and Information Networks*, 16(1), 67-78. Retrieved October 11, 2004, from the Haworth Press database.

Dewald, N. H. (1999). Transporting good library instruction practices into the web environment: An analysis of online tutorials. *The Journal of Academic Librarianship*, 25(1), 26-31. Retrieved October 1, 2004, from the Academic Search Premier database.

Edwards, R. G. (2000). Web tutorials for education students: A practical alternative to traditional library instruction--basic issues and concerns. *Behavioral & Social Sciences Librarian*, 18(2), 17-25. Retrieved November 11, 2004, from the H. W. Wilson (Library Literature) database.

Holmes, K. E. (2003). A kaleidoscope of learning styles: Instructional supports that meet the diverse needs of distant learners. *Journal of Library Administration*, 37(3/4), 367-378. Retrieved October 6, 2004, from the Haworth Press database.

Kelley, K. B., Orr, G. J., & Houck, J. (2001). Library instruction for the next millennium: Two web-based courses to teach distant students information literacy. *Journal of Library Administration*, 32(1/2), 281-294. Retrieved October 6, 2004, from the Haworth Press database.

LaGuardia, C., et al. (1996). *Teaching the new library : A how-to-do-it manual for planning and designing instructional programs*. New York: Neal-Schuman Publishers.

Onwuegbuzie, A. J., & Jiao, Q. G. (1998). The relationship between library anxiety and learning styles among graduate students: Implications for library instruction. *Library & Information Science Research*, 20(3), 235-249.

Prestamo, A. M. (1998). Development of web-based tutorials for online databases. *Issues in Science & Technology Librarianship*, 17(Winter). Retrieved October 9, 2004, from www.library.ucsb.edu/istl/98-winter/article3.html

Research Committee, Library Instruction Round Table. (1996). *Evaluating library instruction: Sample questions, forms and strategies for practical use*. Chicago: American Library Association.

Ross, J. L. (1998). On-line but off course: A wish list for distance educators. *International Electronic Journal for Leadership in Learning*, 2(3). Retrieved October 1, 2004, from www.acs.ucalgary.ca/~iejll/volume2/Ross2_3.html

Simmons College Graduate School of Library and Information Science (GSLIS). (2004). Doctor of arts. Retrieved November 18, 2004 from Web site: www.simmons.edu/gslis/academics/programs/da/da.shtml

Simmons College Graduate School of Library and Information Science (GSLIS). (2004). Master of science. Retrieved November 4, 2004 from Web site: www.simmons.edu/gslis/academics/programs/ms/

Simmons College Libraries. (2004). Simmons College catalog. Retrieved November 28, 2004 from library.simmons.edu/

Terrell, S. R., & Dringus, L. (1999). An investigation of the effect of learning style on student success in an online learning environment. *Journal of Educational Technology Systems*, 28(3), 231-238.